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An inaugural essay

on

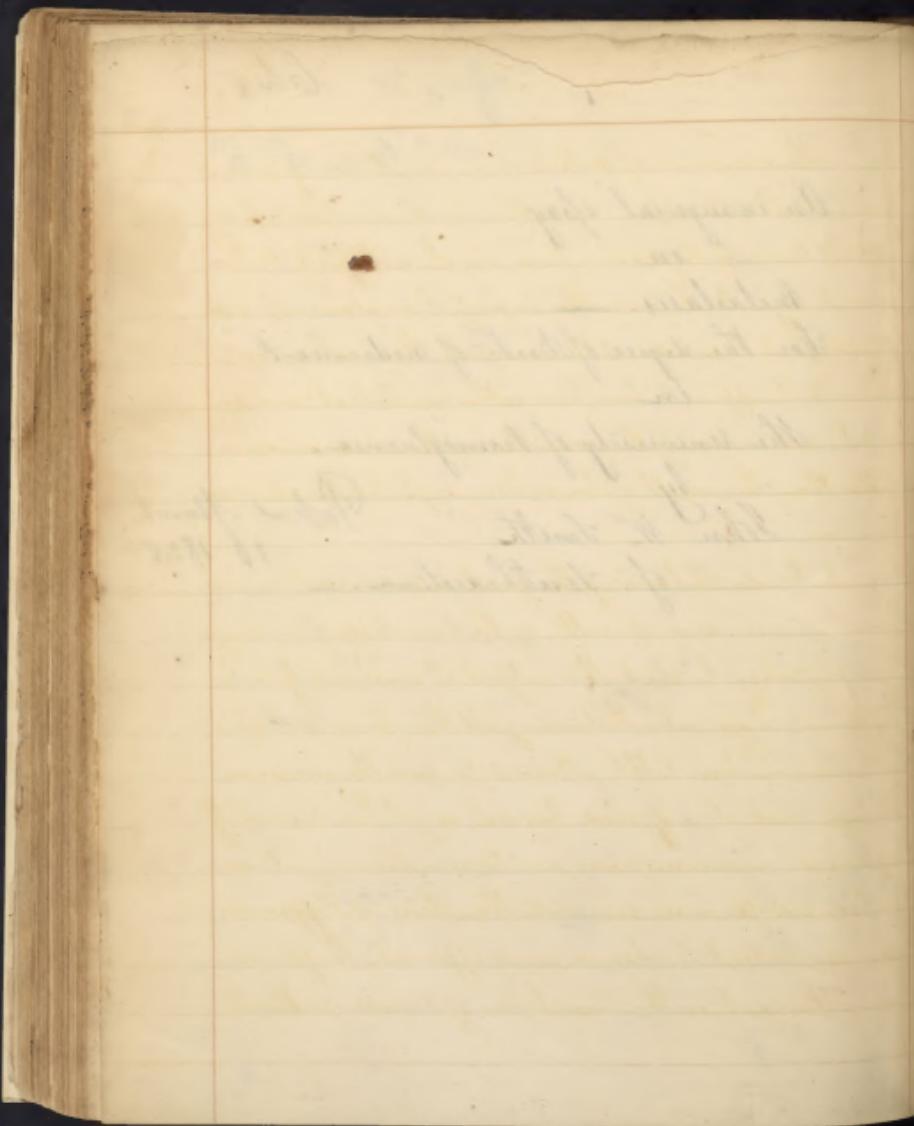
Metastasis. —

For the degree of Doctor of medicine
in

The University of Pennsylvania.

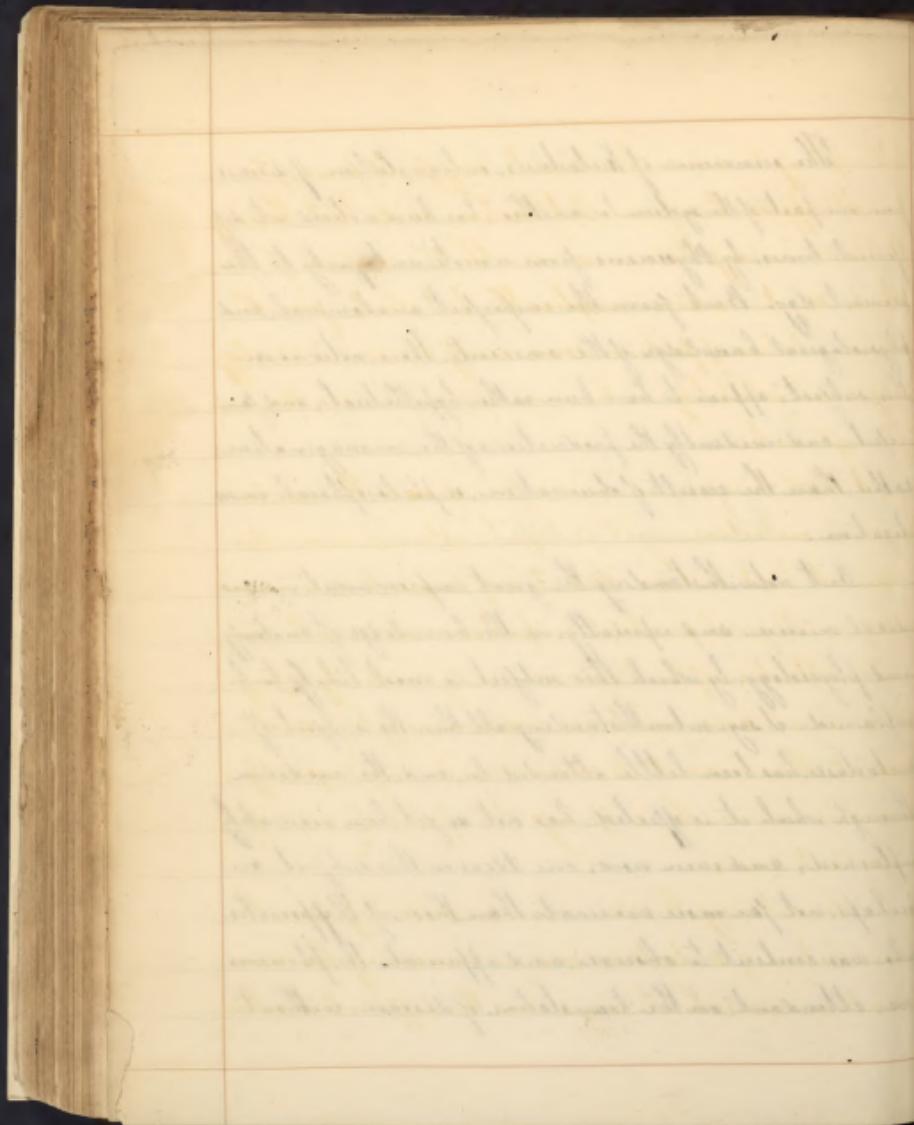
by
John W. Smith

Dated March
16 1825
of South Carolina. —



The occurrence of metastasis, or translation of disease, from one part of the system to another, has been noticed at different times, by Physicians, from remote antiquity to the present day. But from the imperfect anatomical, and physiological knowledge of the ancients, their notions on this subject, appear to have been rather hypothetical, and fanciful, and evidently the productions of the imagination, rather than the result of observation, or philosophical investigation.

But notwithstanding the great improvement in medical science, and especially, in the knowledge of anatomy, and physiology, by which this subject is most likely to be explained, I say, notwithstanding all this, the subject of metastasis, has been little attended to, and the medium through which it is effected, has not as yet, been accurately explained, and even now, our Ideas on this subject, are perhaps, not far more accurate than those of Hippocrates, who, was content to observe, and appreciate the phenomena, attendant, on the translation of disease, without

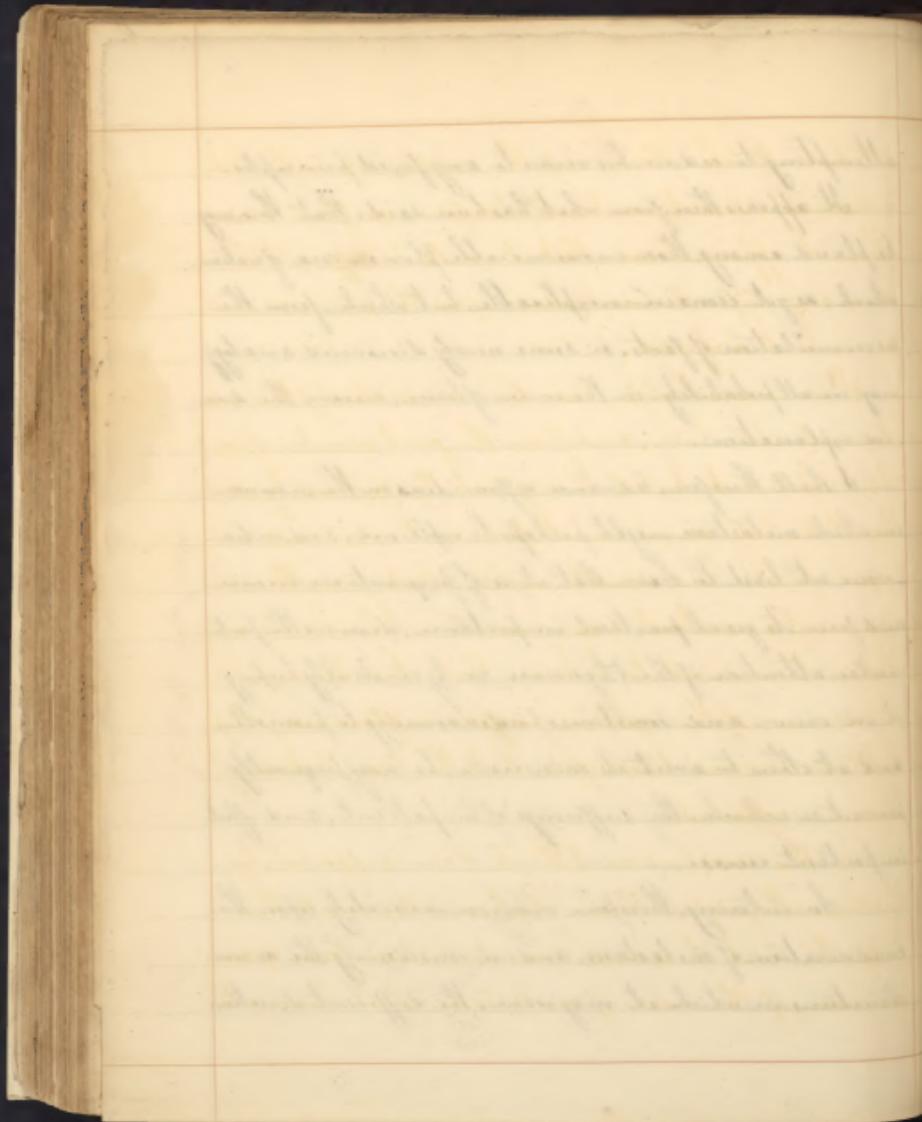


attempting to reduce his views to any fixed principles.

It appears then from what has been said, that this, may be placed among those innumerable phenomena of nature, which, as yet remain inexplicable, but which, from the accumulation of facts, or some newly discovered analogy, may, in all probability, in the course of time, receive the desired explanation.

I shall therefore, advance a few ideas on the manner, in which metastasis, might perhaps be explained, and, endeavour at least to show, that it is of frequent occurrence, and from its great practical importance, deserves the particular attention of the Physician, as, by constantly keeping it in view, and sometimes endeavouring to promote, and at others to avert its occurrence, he may frequently prevent, or relieve, the sufferings of his patient, and effect important cures.

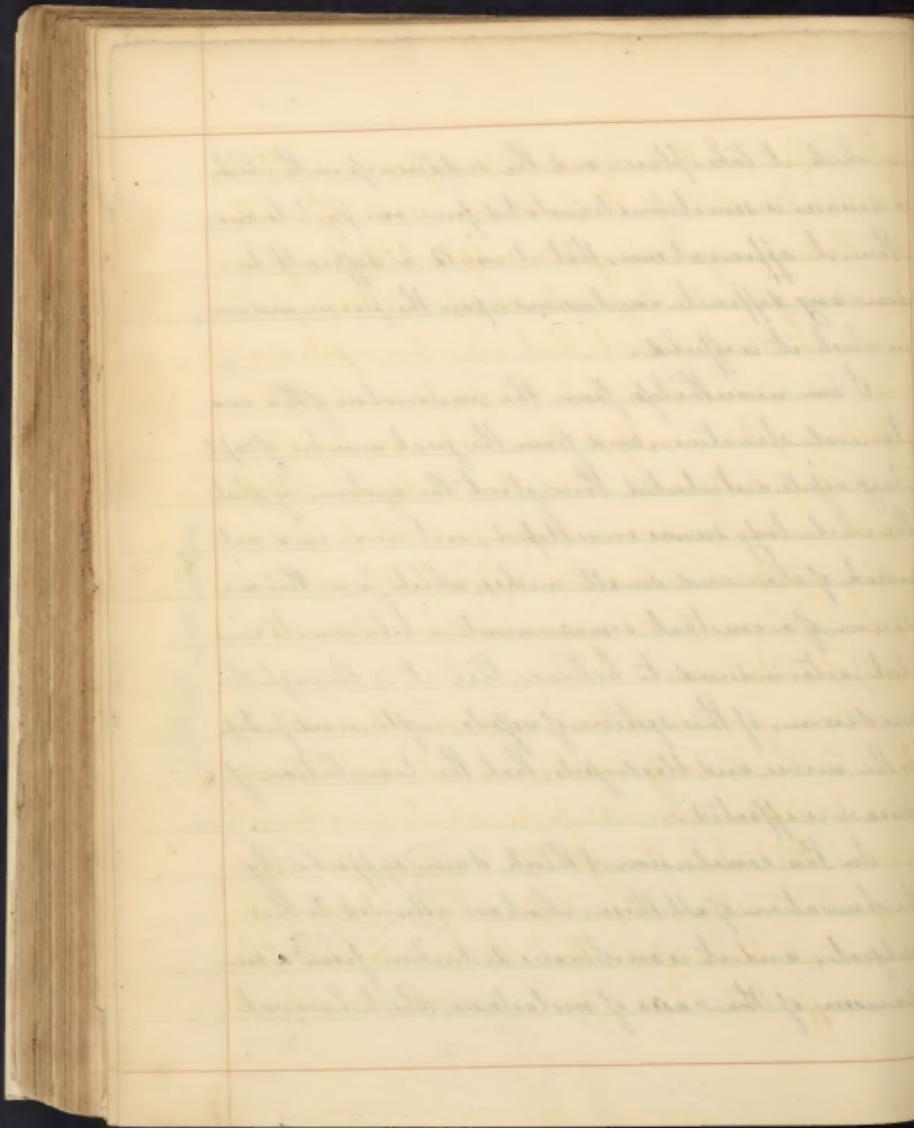
In entering, therefore, more immediately upon the consideration of metastasis, and in considering the various structures in which it may occur, the different structures



in which it takes place, and the suddenness with which a disease is sometimes translated, from one part to another, it appears at once, that it would be difficult to draw any definite conclusions upon the precise manner, in which it is effected.

I am nevertheless, from the consideration of the anatomical structure, and from the great number of capillary vessels, distributed throughout the system, by which the whole body seems enveloped, as it were, in a net-work of close and small meshes, which form the medium, of a constant communication between its most parts, induced to believe, that it is through the medium, of this system of vessels, influenced perhaps by the nerves, and bloodvessels, that the translation of disease is effected.

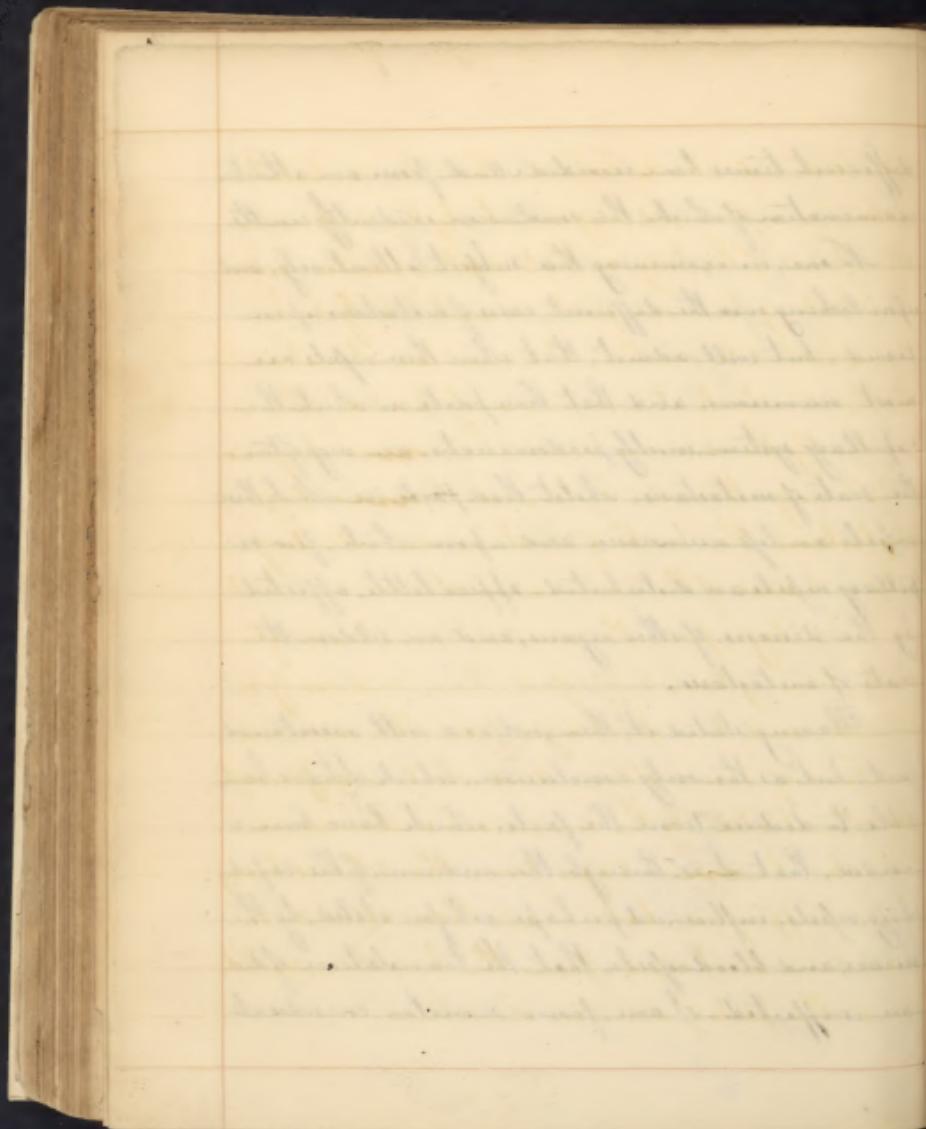
In this conclusion, I think I am supported, by the observation of all those, who have attended to this subject, and it is an obvious deduction from a comparison of the cases of metastasis, which have, at



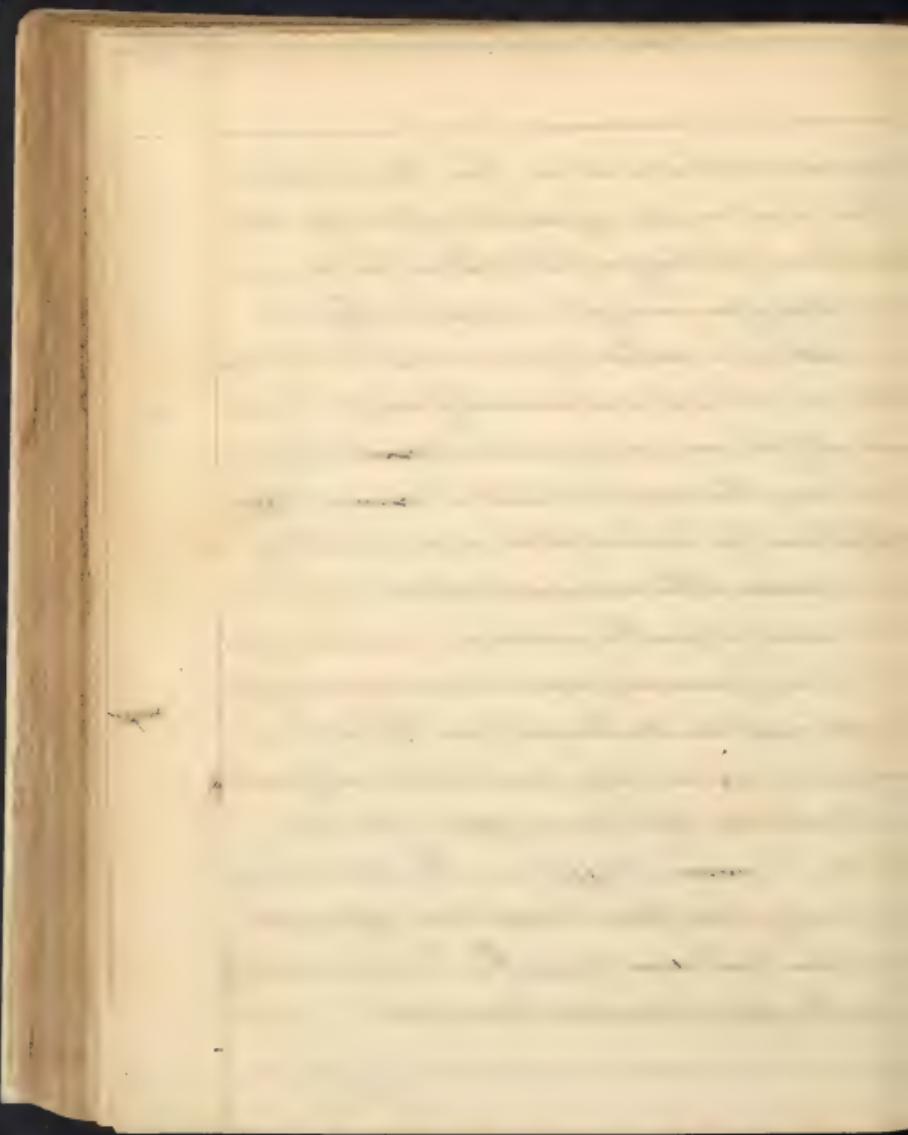
different times been recorded: And, from an attentive examination of which, this conclusion evidently results.

No one, in examining this subject attentively, and upon looking over the different cases of metastasis upon record, but will admit, that where these vessels are most numerous, and that those parts, in which the capillary system mostly predominates, are very often the seats of metastasis, whilst those parts, in which these vessels are less numerous, and upon which, few capillary vessels are distributed, appear little affected by the diseases, of other organs, and are seldom the seats of metastasis.

Having stated it then, not as a well ascertained fact, but as the only conclusion, which I have been able to deduce from the facts, which have been recorded, that it is, through the medium, of the capillary vessels, influenced perhaps, as before stated, by the nerves, and bloodvessels, that the translation of disease is effected. I am, from similar considerati



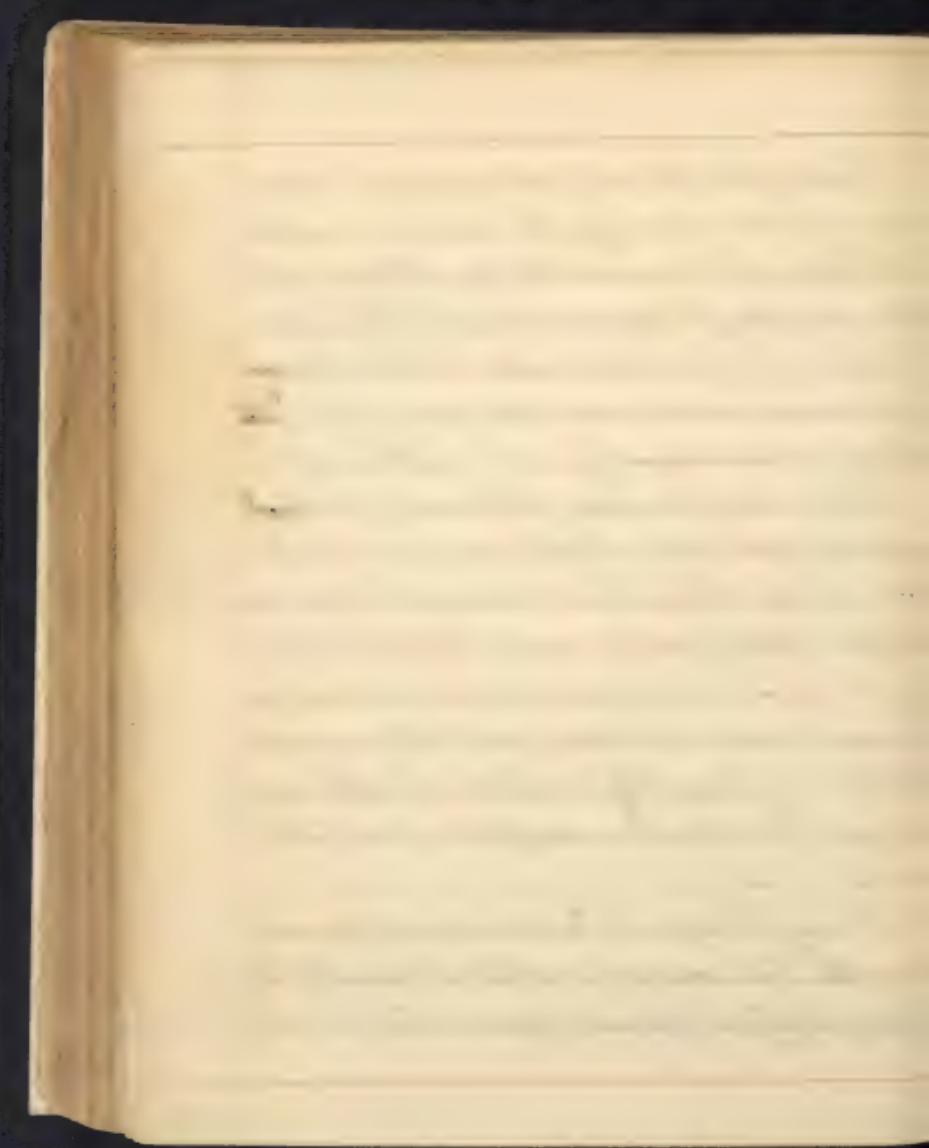
ous induced, also to believe, that, the metastatic action is influenced very much, by the different structures of the body, or that, *contra partus*, a disease passing from one part, is most likely to be, translated to another, of a similar structure to that, in which it was previously located. This is evidently the case, in vicious haemorrhages, or what may otherwise be termed, hemorrhages, metastasis, the truth of which, no one will deny, who is aware of the numerous instances, in which, haemorrhages from the mucous membrane of one part, having been suppressed, have suddenly appeared, and been discharged from the mucous surface of some other. And which is sufficiently illustrated, by the numerous instances, in which, hemorrhages from the uterus, having been suppressed, have made their appearance, and been discharged, from the bronchia, nostrils, and other parts of similar structure.



Having thus far, only endeavoured to advance, a few general ideas upon the manner, in which metastasis, might be accounted for. I have next to shew, according to my arrangement of the subject, that it is of frequent occurrence, but which, from the numerous cases on record, no person will pretend to deny, and consequently needs no further proof.

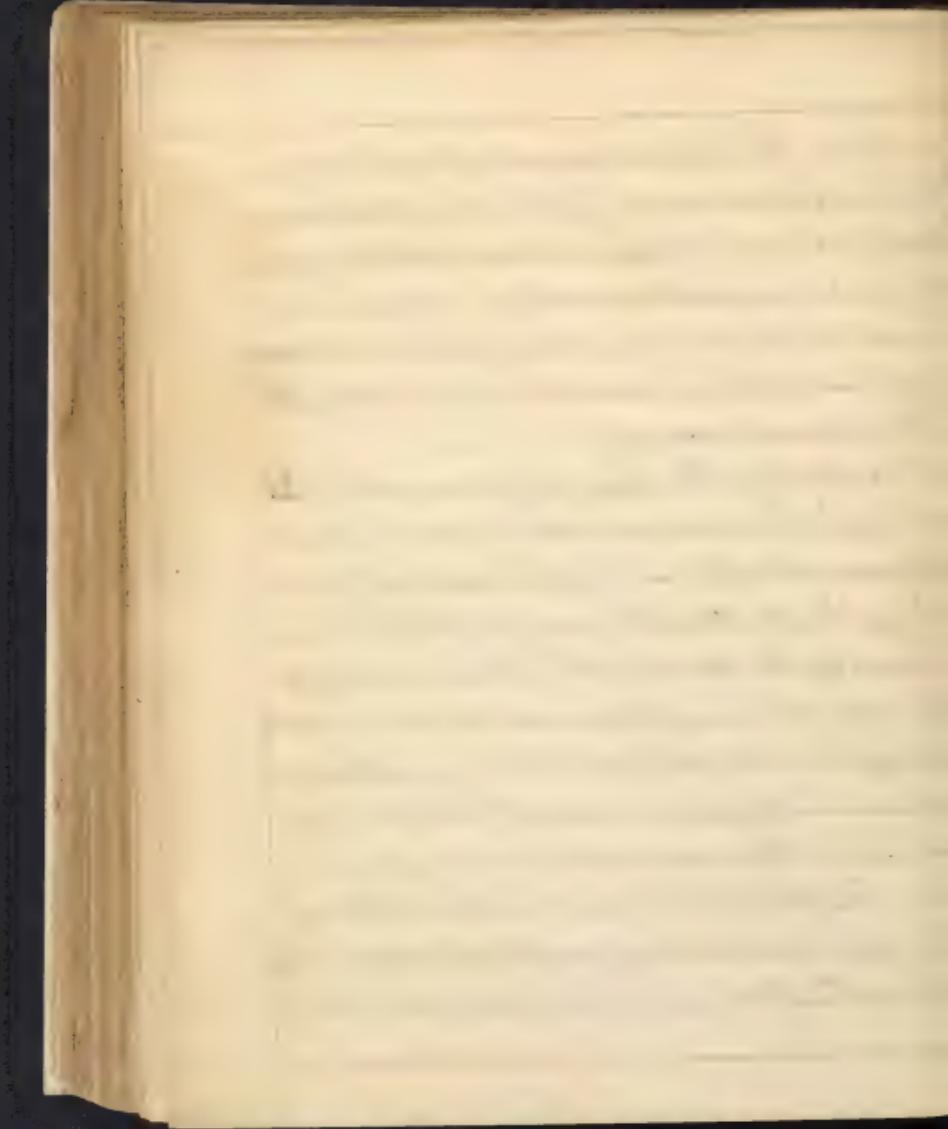
I shall, therefore, pass on to the next, and most important part of the subject, and endeavour to shew, as before stated, that it deserves the particular attention of the physician, as it is by constantly keeping it in view, and sometimes endeavouring to promote, and at others, to avert its occurrence, that he may frequently prevent, or relieve, the sufferings of his patient and effect important cures.

It may, therefore, be laid down as a general principle, that, whenever vital parts are affected, or any highly important organ in the animal

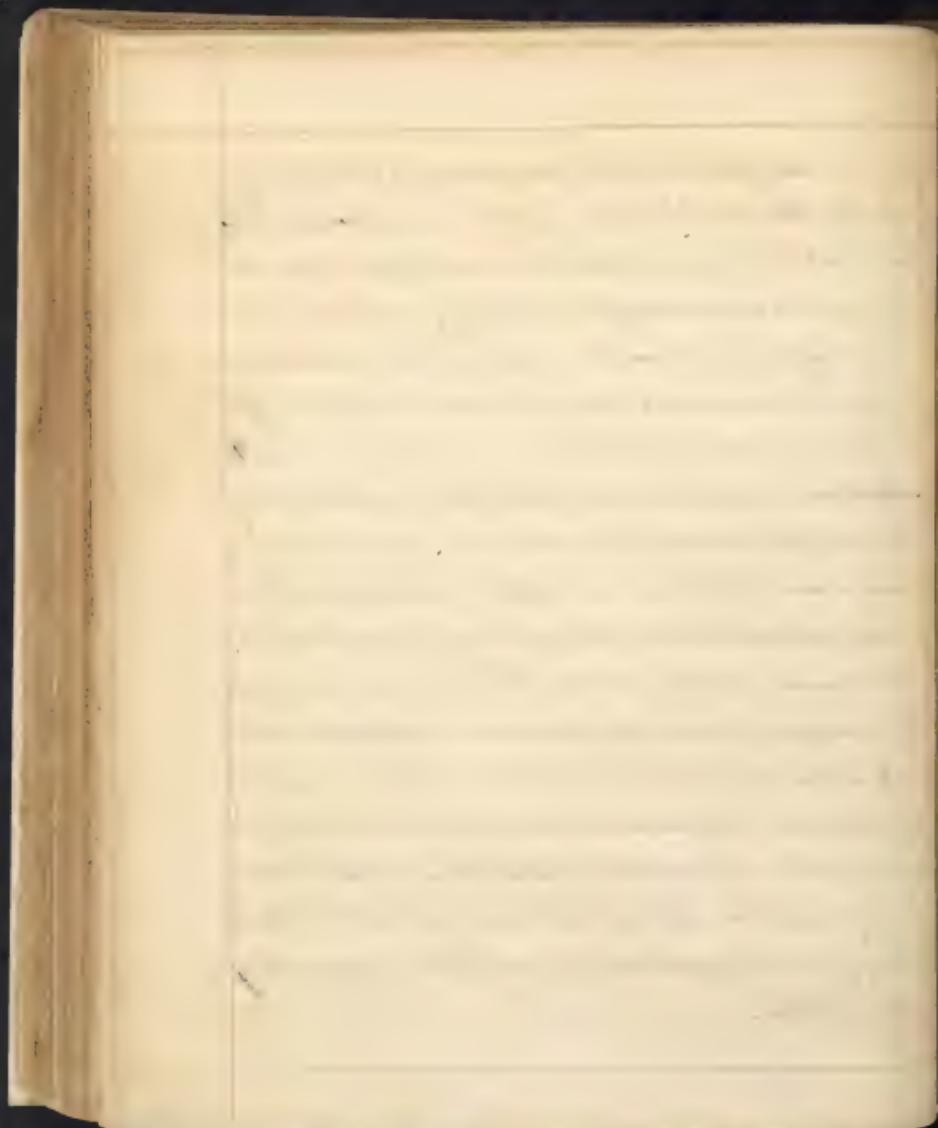


machine, the least derangement of whose functions might even endanger the life of the individual, is the seat of disease, we should always, under such circumstances as these, endeavour to promote the action of metastasis, by which, the disease may be translated to some other, less essential part, in the animal economy.

To illustrate this more fully, and without adverting to the numerous cases recorded by Perier, Hoffman and others, some of which are highly interesting, I will relate the case of Hetty Hillen, as recorded by Dr Parish in the *selective repository* for 1812, and which is as follows: "At the time I visited her," says the Doctor, "she was labouring under cough, frequent chills and fever, and I believed her disease to be *phthisis pulmonalis* in an incipient state. The first time I saw her, she called my attention to several large seropulous tumours situated on the thorax, which gave her a great deal of

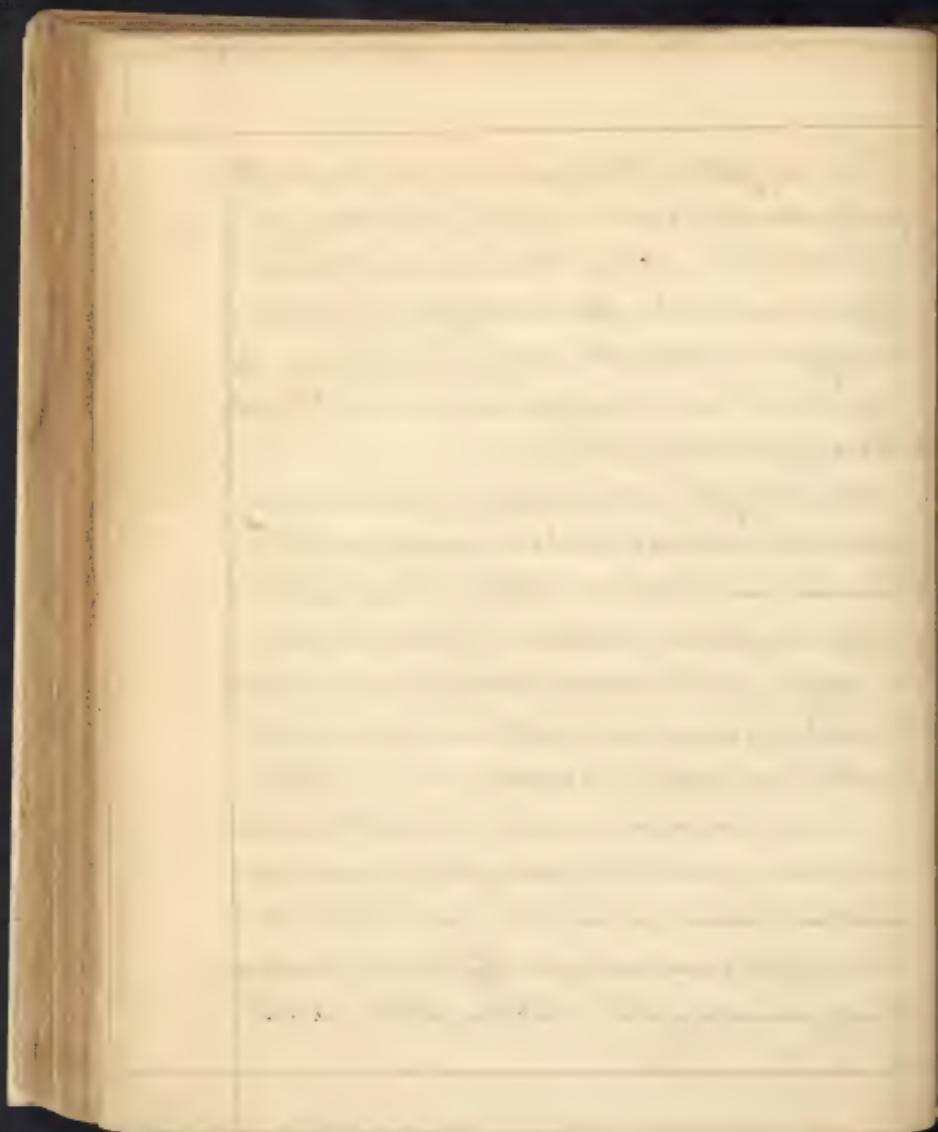


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pain, and for which she was desirous of obtaining relief. As my attention had for a considerable time been particularly directed to the subject, I viewed her case as uncommonly interesting, and determined on giving a trial to the efficacy of the external disease in removing the internal. Emollient applications were ordered to the tumefied parts, while palli-
-ative remedies were prescribed for the cough. Sputa-
-tion took place, and the abscess was opened, a copious dis-
-charge was established, and happily for the patient there
-was an evident decline of the pulmonary complaint. I
endeavoured to impress her with the absolute necessity
-of keeping the abscess open, and she appeared convin-
-ced of the correctness of the practice. Her recovery was
not rapid, but has proved certain. It would be useless to
-go into further the details of this case. I will, therefore,
be sufficient to state, that the last time Dr. Parish
heard from this patient she was in the enjoyment of
good health.



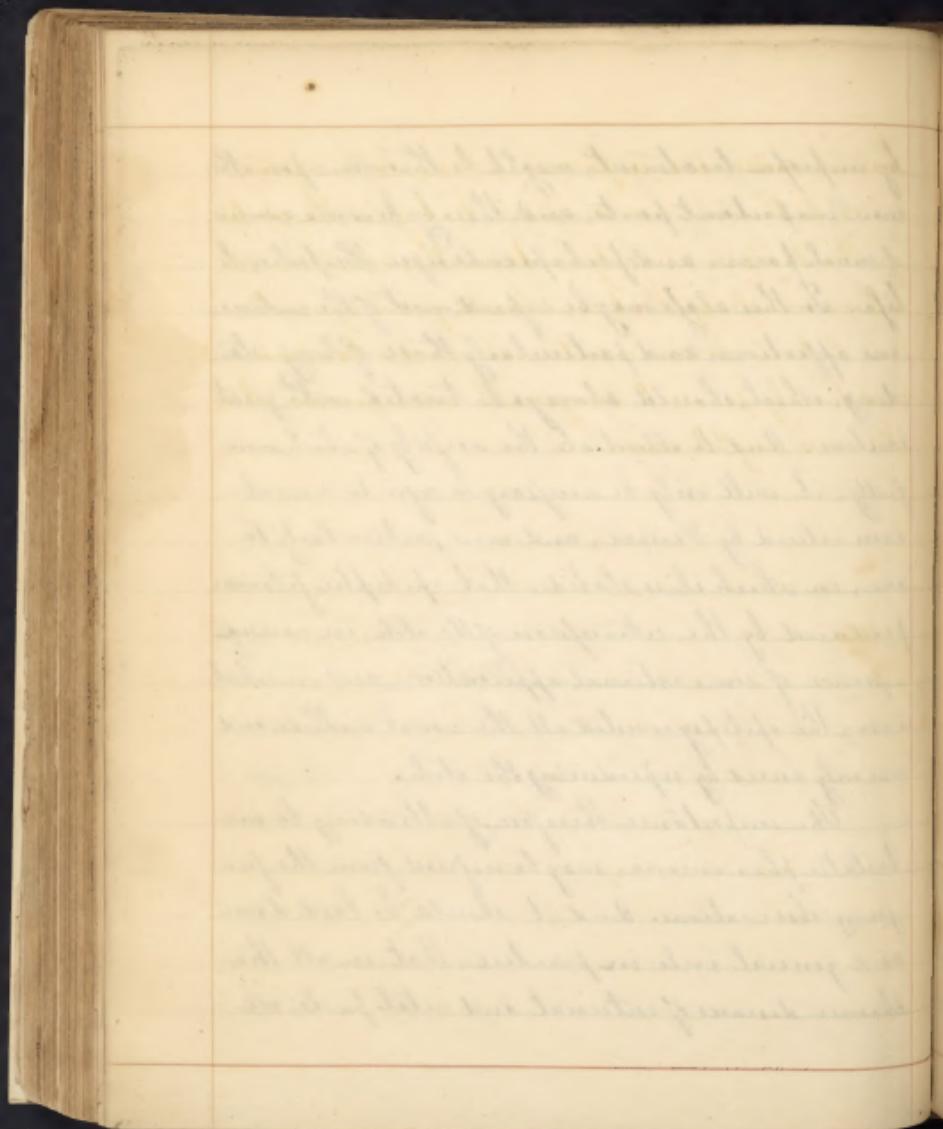
The success, then, of this case, and of numerous others equally interesting and successful, but which my limits will not permit me to insert, is, I think, a pretty fair comment on the correctness of the practice, and sufficiently shows the propriety of endeavouring to promote the translation of disease, from vital parts, to those less essential to life.

Admitting then the propriety, of endeavouring to promote a metastatic action, in cases similar to those above mentioned, and, that by so doing, the lives of many have, perhaps, been prolonged, and their sufferings alleviated. It only remains to mention a few general circumstances, under which, it will be necessary to endeavour to prevent the occurrence of metastases and to retain the disease in its primary seat. The cases of this kind are obviously those, which, situated in parts little essential to life, have consequently, an inconsiderable influence on the vital functions, but which,



by improper treatment, might be thrown upon other more important parts, and thereby become a source of much pain, and perhaps endanger the patient's life. To this class may be referred, most of the cutaneous affections, and particularly those of long standing, which should always be treated with great caution. And to illustrate the necessity of which, more fully, it will only be necessary to refer to several cases noticed by Ferrier, and more particularly to one, in which it is stated, that epileptic fits were produced by the extraction of the itch, in consequence of some external application, and in which case, the epilepsy resisted all the usual methods, and was only cured by reproducing the itch.

The importance therefore, of attending to metastatic phenomena, may be inferred from the foregoing observations. And it should be laid down as a general rule in practice, that, in all the chronic diseases of internal and vital parts, we



should endeavour to favour a translation of the disease to the external surface. But if on the contrary, the disease already exists in this situation, it is then necessary, that we should guard against a translation, to more internal, and vital parts, and thereby prevent disagreeable consequences, which otherwise might occur. —

